

Application No.: 10/719,739

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Docket No.: 245402008000

AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A nitride semiconductor light emitting device comprising at least a substrate, an active layer formed of a nitride semiconductor containing mainly In and Ga, an optical cavity, a p-electrode associated with said cavity, and an n-electrode associated with said cavity, wherein ~~at least one of~~ said p-electrode is electrically separated into at least two regions ~~and/or and~~ said n-electrode is electrically separated into at least two regions.

Claim 2 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein ~~at least one of said p-electrode and said n-electrode is electrically separated into at least two regions, and~~ said nitride semiconductor light emitting device has self pulsation characteristics.

Claim 3 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein said active layer has a bandgap of at least 2.6 eV, ~~and at least one of said p-electrode and said n-electrode is electrically separated into at least two regions, and~~ said nitride semiconductor light emitting device has self pulsation characteristics.

Claim 4 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein said active layer has a bandgap of at least 2.6 eV, ~~and at least one of said p-electrode and said n-electrode is electrically separated into at least two regions, and~~ said nitride semiconductor light emitting device has self pulsation characteristics in a light output range of at least 5 mW.

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Claim 5 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein ~~at least one of said p-electrode and said n-electrode is electrically separated into at least two regions,~~ and the p-electrode and n-electrode are electrically short-circuited in at least one of the regions of said separated electrode.

Claim 6 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein ~~at least one of said p-electrode and said n-electrode is electrically separated into at least two regions,~~ and the p-electrode and n-electrode are electrically short-circuited in at least one of the regions of said separated electrode, and said nitride semiconductor light emitting device has self pulsation characteristics.

Claim 7 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein said active layer has a bandgap of at least 2.6 eV, ~~and at least one of said p-electrode and said n-electrode is electrically separated into at least two regions,~~ and the p-electrode and n-electrode are electrically short-circuited in at least one of the regions of said separated electrode, and said nitride semiconductor light emitting device has self pulsation characteristics.

Claim 8 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein said active layer has a bandgap of at least 2.6 eV, ~~and at least one of said p-electrode and said n-electrode is separated electrically into at least two regions,~~ and the p-electrode and n-electrode are electrically short-circuited in at least one of the regions of said separated electrode, and said nitride semiconductor light emitting device has self pulsation characteristics in a light output range of at least 5 mW.

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Claim 9 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein one of said electrodes electrically separated into said at least two regions ~~forms contact with one~~ contacts a first mirror facet of two mirror facets forming a said cavity, and said first mirror facet has a reflection film containing a conductive material, and the p-electrode and n-electrode are electrically connected by said reflection film.

Claim 10 (currently amended): The nitride semiconductor light emitting device according to claim 9, wherein ~~one of said electrodes electrically separated into at least two regions forms contact with one of two mirror facets forming a cavity~~ said first mirror facet is positioned at a side of said cavity opposite to an output plane side of said cavity.

Claim 11 (original): The nitride semiconductor light emitting device according to claim 9, wherein said conductive material includes Al.

Claim 12 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein a resistor is provided between said p-electrode and said n-electrode in at least one of the regions of said electrode electrically separated into said at least two regions.

Claim 13 (currently amended): The nitride semiconductor light emitting device according to claim 12, wherein said device has self pulsation characteristics that are adjusted by said resistor provided between said p-electrode and said n-electrode.

Claim 14 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein Si is added as ~~n-type impurities~~ an n-type impurity into said active layer, and a concentration of said Si in said layer is $1 \times 10^{17}/\text{cm}^3$ to $5 \times 10^{18}/\text{cm}^3$.

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Claim 15 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein Si is added as ~~n-type impurities~~ an n-type impurity, and an average concentration of said Si is $1 \times 10^{17}/\text{cm}^3$ to $5 \times 10^{18}/\text{cm}^3$ in a region from a p-n junction to said active layer.

Claim 16 (currently amended): The nitride semiconductor light emitting device according to claim 1, wherein ~~at least one of said p-electrode and said n-electrode is electrically separated into at least two regions, and the p-electrode and n-electrode are electrically short-circuited in at least one of the regions of said separated electrode, and a range of $0.02 \leq L1/L2 \leq 0.30$ is established, where L1 is a total length of the region or regions of the separated electrode that are where the p-electrode and n-electrode are electrically short-circuited, and L2 is a total length of the region or regions of the separated electrode that are not short-circuited, among the electrode separated into regions.~~

Claim 17 (original): The nitride semiconductor light emitting device according to claim 1, wherein connection is established such that at least one of said electrodes separated into at least two regions has reverse bias applied to said active layer and another of said electrodes separated into at least two regions has forward bias applied to the active layer.

Claim 18 (original): The nitride semiconductor light emitting device according to claim 17, wherein connection is established such that at least one of said electrodes separated into at least two regions has reverse bias and forward bias applied in a switched manner to said active layer.

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